Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

thetic trustfulness of the poor monkey, Marimonda, — what of it all? "Ah!" said our friend with the orthopterous "doxy," but who is afraid of crickets, and despises bugs generally, "Don't you mind; is it not all simply instinct?" "No," we answer, "but a part of a grand something, more complex and less blind; a fabric which God has been building since before the world." Our friend, who looked astonished, was one who always made full tithes of the anise and the cummin, even if he did overlook the weightier matters of the law. Hence he was so particular about his vowels, too. "Fay-brick, fay-brick," he reiterated; "what do you mean?" "Ay, bricks; ay, bricks, indeed," we said, simulating the sound, "bits of the divine temple, you know. That is all."

◆

OUR WILD GOOSEBERRIES.

BY PROFESSOR ASA GRAY.

THE AMERICAN NATURALIST may be of much use as a medium of communication with every part of the country, and our scattered botanists may turn it to greater account than they have yet done. There are many queries to ask, and bits of information wanted, which the local botanist or zoölogist may answer or supply with little trouble and essential advantage to the science. The only difficulty is to bring the demand into connection with the source of supply. For that I know no better way, in the present instance, than to use the columns of this widely circulated journal, if I may be permitted to do so. Let me say, then, to the botanists, that the wild gooseberries of the United States are not in a satisfactory condition as they stand in the books, and that information and specimens are needed from very various parts of the country. A response to this appeal made by a few persons happily situated, in this and that part of the country, may perhaps clear up the principal difficulties in the course of the current season.

A cursory sketch of our species as I now understand them may show what is most wanting to a better understanding of them.

I. Let us begin with the species which a gardener might say was a cross between a gooseberry and a currant, namely, —

Ribes lacustre Poir., well marked by having racemes of numerous small flowers, in the manner of a common currant, the blossom as small and as open, and the very small reddish berries beset with some scattered bristles. This abounds through the north, in cold wet woods from Newfoundland to the Pacific. There is a dwarf variety of this in the higher Rocky Mountains and northwestward, smaller in all its parts, and with fewer-flowered racemes. In some publications I have called it *R. setosum*, a species said to have been raised by the Loddiges from seed sent by Douglas. This very one was received from the Messrs. Loddiges under that name thirty years ago, and cultivated in the Cambridge Botanic Garden. Yet it is not the plant published and figured by Lindley, as will be presently seen. I pass to

II. The true gooseberries, with peduncles bearing only one or two or at most four flowers, and calyx-cup bell-shaped or tubular. These may be roughly arranged in three sets by the color of the flower.

(1.) Yellow-flowered. The only one of this subdivision is the *R. leptanthum* Gray. It belongs to the Rocky Mountains of Colorado and New Mexico, and to the drier parts of the Sierra Nevada. It was first collected by Dr. Edwin James in Long's expedition, but was named and described long afterwards, from Fendler's New Mexican collection. It is an insignificant, small-leaved, and slender-flowered species. The dried flowers do not seem to have been really yellow, but they are said to be so by the collectors in the Sierra Nevada, where, however, the flower is generally shorter, broader, and more downy. We would ask those who have met or may meet with it in the Rocky Mountain region if the flowers are really yellow or yellowish there.

(2.) White or greenish flowered, sometimes with a dull purplish tinge. To this division belong all our edible gooseberries, and here lie the main difficulties in the way of distinguishing the species.

Two of these may be known from the rest by having the lobes of the calyx decidedly shorter than the tube, and their berries are apt to be prickly. They are

R. setosum Lindl., a white-flowered species with a narrow cylindrical calyx-tube. It takes its name from the slender scattered prickles on the branches ; but these are sometimes wanting, this being an inconstant character in all the species. The young berries are either perfectly smooth and naked, or beset with a few bristly prickles. This is the *R. oxyacanthoides* of Hooker's Flora, but certainly not of Linnæus. It belongs to the Saskatchawan region, extending into Montana and Wyoming. No. 107 of

Dr. Parry's Wyoming collection is a small-leaved form of it, which was mistaken for *R. leptanthum;* but the flower is perfectly smooth, evidently white, and the style deeply cleft and hairy towards the base. I suspect that this species inhabits the northwestern shore of Lake Superior. Botanists visiting that district should look for a species with pure white flowers, a half-inch or less in length, with cylindrical tube, and stamens decidedly shorter than the lobes.

R. cynosbati L. This dogberry, as the name denotes, is well marked by the usually strong prickles on the fruit, weak prickles on the stems (the thorns sometimes wanting altogether, but occasionally well developed), slender peduncles, and especially by the broadly bell-shaped tube of the greenish flower. It is common from Lower Canada to Illinois, and in the Alleghanies to Virginia. It is found occasionally with the berries as well as the stems wholly unarmed.

In the rest of this section the calyx-lobes are decidedly longer than the short, bell-shaped tube; and the berries are smooth and naked, purple, sweet and pleasant-tasted.

R. gracile Michx. is the most distinct of them. It is well named on account of the slender peduncles, long and narrow calyx-lobes, and almost capillary filaments. The latter are half an inch long, generally connivent or closely parallel, and soon conspicuously longer than the oblong-linear calyx-lobes, which, being reflexed in anthesis, as in all these species, then expose the whole length of the stamens to view. The flower is whiter than in the rest of these species, having barely a slight tinge of green. The berry is pretty large, and is prized in cultivation, under the name of Missouri gooseberry. It is the *R. Missouriense* of Nuttall in Torrey and Gray's Flora. It is also, as the figure shows, the *R. niveum* of Lindley in the Botanical Register; and from the character, it is probably the *R. triflorum* of Hooker's Flora. It ranges from Tennessee and Illinois to the northern borders of Texas, and northwestward into the Rocky Mountains. In Michaux's Flora the habitat is the mountains of Tennessee; but I suppose it will not be found in the Alleghanies. A note with the specimens in his herbarium at the Jardin des Plantes records that they were collected "in itinere Nashville."

R. rotundifolium Michx. is a species of the Alleghany Mountains, ranging northward and eastward into New York and the western borders of Massachusetts. Professor Dewey long ago collected it near Williamstown, and Professor Tuckerman's Amherst catalogue gives West River Mountain, on the authority of Hitchcock. I wish to obtain flowering specimens of it from all parts of its range ; for the limits between it and the following are obscure. Its range is more southern and comparatively restricted ; the flower is narrower, and the stamens longer, becoming a quarter of an inch in length and nearly double that of the calyx-lobes ; the peduncles also are longer ; but this character does not hold out well. Although it belongs to a district most of all familiar to botanists, I have seen few flowering specimens. The New York catalogue in the *Bulletin* of the Torrey Club cites " Fort Lee, W. H. L., and foot of 60th Street, North River, LeRoy." A specimen of the latter is preserved in the Torrey herbarium, and is the European gooseberry. *R. triflorum* Willd is, I think, rightly referred to *R. rotundifolium*, an earlier name.

R. oxyacanthoides L. We must bring this name into use in place of *R. hirtellum* Michx. (which is generally inappropriate), for no reasonable doubt remains that it is the Hudson's Bay gooseberry, figured by Dillenius, upon which Linnæus founded the species. It is the common smooth-fruited gooseberry of New England and the whole region northward, and it extends westward to and beyond the Rocky Mountains, and even into the Sierra Nevada of California. It has shorter peduncles than the preceding, but this distinction is by no means absolute ; the flower is broader, and the stamens merely equal or only slightly exceed the calyx-lobes. It is the *R. saxosum* of Hooker, whose *R. oxyacanthoides* is *R. setosum*, while that of Michaux is *R. lacustre*.

R. divaricatum Douglas. This takes the place of all the preceding on the Pacific side, and ranges from the lower part of California (in a downy form, *R. villosum* of Nuttall) to British Columbia, meeting *R. oxyacanthoides* in the interior. There is a form (var. *irriguum*, the *R. irriguum* of Douglas), of which we know too little, which comes near to *R. rotundifolium*. The species is pretty well marked by its slender peduncle and pedicels, mostly 3–4-flowered, oblong and livid-purple calyx-lobes, and short and broad tube ; the stamens about a quarter of an inch long, and thrice the length of the broadly wedge-shaped and nearly white petals. The flower, ovary included, is from a third to half an inch long. The berries are said to be excellent.

(3.) Red-flowered species. These all belong to the Pacific side of the continent, are large-flowered, and their berries are unfit to eat.

R. Lobbii Gray. I am under the necessity of giving a name to this little known but apparently very distinct species. It is figured by Hooker in the *Botanical Magazine*, tab. 4931, as *R. subvestitum* Hook. and Arn., from a Californian plant sent by the late Mr. Lobb (whether seeds or young plants is not mentioned, probably seeds) to his employers, Messrs. Veitch and Son. But the only specimens I have seen are one, exactly agreeing with the plate, from Kew, ticketed "Vancouver's Island, Wood," and another, from the Willamette, in the same region, collected by Mr. Howell. It should be particularly looked for in California, north of San Francisco Bay, and along the coast to British Columbia. Perhaps the Californian habitat is an error. The species may be distinguished by its dark, purplish-red calyx of half an inch in length, not counting the ovary, nearly white petals half the length of the stamens, very glandular but unarmed ovary, and especially by the short, oval, and very blunt anthers, which are dotted with a few warty glands on the back. These short and blunt anthers are shared with all the preceding species, but not with the following.

R. Menziesii Pursh, well marked by its sagittate anthers, with a mucronate tip. The flowers are as large as in the preceding, or considerably larger, but variable in this respect, and of a similar purplish-red color; and the berry is large and prickly, usually densely, sometimes sparsely so; the prickles sometimes strong and spiny, sometimes shorter, bristle-like, and when young gland-tipped. It extends from the southern part of Oregon through the whole length of California, and varies exceedingly. *R. subvestitum* Hook. and Arn., as to all the specimens of Douglas, on which it was founded, is a form of the species not far removed from the typical. *R. Californicum* and *R. occidentale* Hook. and Arn. seem different enough in the original and in many other specimens, being very small-leaved and mainly glabrous. I had formerly (in the fourth volume of the Pacific Railroad Explorations) united these two with *R. subvestitum.* I am now of opinion that all are forms of *R. Menziesii.* They are, however, commended to the notice of native Californian botanists.

R. speciosum Pursh. The scarlet-flowered gooseberry of California is so distinct that a separate section has been provided for it. Besides the bright color and ample size of the flowers, its calyx-lobes do not turn back, and are often only four; the stamens protrude for an inch or more, and the rather dry berry is fewseeded. Its synonymous names are characteristic: *R. stamineum* Smith, for the remarkably long stamens; *R. fuchsioides* Berlandier, for the resemblance to a fuchsia-blossom. In England, where it is hardy, it is prized in cultivation for its brilliant red flowers garnished by the shining and almost evergreen leaves. Trained to the wall of a house, it may be carried to the height of fifteen or twenty feet.

A synoptical view of the species will be convenient: —

- Flowers several in a raceme, small and flattish, greenish.............R. LACUSTRE.
- Flowers 1 to 4 on the peduncle (calyx-tube at least as high as broad):
  - Yellow or yellowish, tubular...R. LEPTANTHUM.
  - White, tubular, with short lobes...................................R. SETOSUM.
  - Greenish, with lobes shorter than the bell-shaped tube............R. CYNOSBATI.
  - White or whitish, narrow, with lobes longer than the tube and shorter than the half-inch stamens...R. GRACILE.
  - Greenish or dull purplish lobes; longer than the tube:
    - Nearly equaling the stamens..........................R. OXYACANTHOIDES.
    - At length shorter than the stamens:
      - Calyx-tube and lobes rather narrow...................R ROTUNDIFOLIUM.
      - Calyx-tube and petals broad..............................R. DIVARICATUM.
  - Purplish-red, larger; Pacific species:
    - Anthers oval, pointless..R. LOBBII.
    - Anthers sagittate, mucronate.............................R. MENZIESII.
  - Scarlet-red, very long-stamened, Californian...................R. SPECIOSUM.

◆

MULTIPLICATION BY FISSION IN STENTOR MÜLLERI

BY HON. J. D. COX.

I HAD the good fortune, one evening lately, to observe the whole process of the division of a large *Stentor Mülleri* into two complete individuals, by fission. The circumstances were favorable for pretty carefully noting the phenomena exhibited as the change went on, and there were some of them which I have not seen narrated, and which have a direct bearing upon the question of the organization of this group of infusoria.

The water was from the Maumee River at Toledo, Ohio, on Lake Erie, and contained a good variety of infusoria and of rotifers, which had propagated quite rapidly in the glass jar, among some aquatic plants carelessly thrown into it. The specimen of Stentor under consideration attracted my attention by its size, as it was about four hundredths (.04) of an inch in length, the stalk being stretched till it appeared about one half longer than the proportions shown in the engraving of *Stentor Mülleri* in the Micrographic Dictionary.

Whilst examining other forms in the compressor, I returned to this from time to time to enjoy its beauties, and soon noticed